ThinkPad W540

Product Specifications Reference (PSREF)



Lenovo® ThinkPad W540



Lenovo ThinkPad W540



Lenovo ThinkPad W540



Lenovo ThinkPad W540



Lenovo ThinkPad W540

ThinkPad W540 Platform Specifications

Positioning	Mobile workstation; two spindles	Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 /							
Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor	1	stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack							
	Processor Number Cores Threads Frequency Frequency Cache Speed Graphics Frequency Frequency Cache Speed Graphics	WLAN ⁴	One of the following, configurable by model: • ThinkPad 11b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter, M.2 card • Intel Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card • Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card • Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card							
	15-4330M 2 3.5 GHz 3MB 2.9 GHz 3.6 GHz 4MB 2.9 GHz 3.6 GHz 4MB 2.4 GHz 3.4 GHz 6MB 2.5 GHz 3.5 GHz 6MB 2.5 GHz 3.5 GHz 6MB 2.5 GHz 3.7 GHz 6MB 2.7 GHz 3.7 GHz 6MB 2.8 GHz 3.8 GHz 6MB 2.9 GHz 3.9 GHz 8MB 3 GHz 3.9 GHz 3.9 GHz 8MB 3 GHz 3.9		One of the following, configurable by model (mutually exclusive with M.2 SSD): • Wireless WAN upgradable • Wireless WAN, Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/HSPA+/EVDO/GSM/GPRS/EDGE, GPS, M.2 card (US models) • Wireless WAN, Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS, M.2 card (WE models) • Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card (WE models) One of the following, configurable by model:							
Memory	dual-core model: 16GB max ⁷ , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable	(optional)	AT&T® or Verizon® LTE (4G), contract required with service provider (US models) Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required (WE models) User selectable, contract required with service provider							
Optical (optional) Ultrabay	DVD burner, 9.5mm Ultrabay slim, removable One modular bay for removable devices (right side, cold swap), 9.5mm high, bottom access	Bluetooth™ Ethernet NFC	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter Intel Ethernet Connection I217-LM (Clarkville) Optional: Near Field Communication							
Storage	Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive (HDD) / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ removable, upgradable, supports the second disk, Shock Mounted	Security Security chip vPro (optional) Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology or Optional: Fingerprint reader on the palm rest, swipe sensor							
M.2 SSD	Some: M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card	Limited warranty ¹	² One of the following, configurable by model:							
Widescreen display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), anti-glare, LED backlight, 350 nits, 16:9 aspect ratio, 1000:1 contrast ratio, IPS		 1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service²⁴ 3-year/1-yr battery limited onsite service, IWS (International Warranty Service¹⁷) 							
Multi-touch Color calibration	None Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator	Preload	Windows® 7 Professional 64 Some: Windows 8 / 8.1 64-bit Some: Windows 8 / 8.1 Pro 64-bit • Lenovo Solution Center							
)HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	_	 Lenovo Solution Center ThinkVantage Product Recovery Lenovo Support Lenovo Companion 							
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory, supports external analog monitor via VGA and digital monitor via Mini DisplayPort / Thunderbolt™; supports three independent displays; Max external resolution: 3840x2160@60Hz (DisplayPort via MiniDP cable); 3840x2160@60Hz (Thunderbolt); 1920x1200@60Hz (VGA)		 Rescue and Recovery™ ThinkVantage System Update Lenovo Cloud Storage by SugarSync PC Device Stage Adobe® Reader® Nitro Pro Evernote® ThinkVantage System Update Lenovo Reach (Windows 8.1 model) Hightail - Metro (Windows 8.1 model) Lenovo Cloud Storage by SugarSync - Metro (Windows 8 model) Lenovo Cloud Storage by SugarSync (Windows 8 model) 							
Keyboard UltraNav™ ThinkLight™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch None		 Skype™ Microsoft® Office preloaded; purchase a product key to activate Norton™ Internet Security PC Device Stage AccuWeather Amazon Kindle Nitro Pro 							
Dimensions ³ Weight ² Case material Battery type	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg) Glass-Fiber Reinforced Plastic Li-lon 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter		 (30 days of virus definitions) Cyberlink PowerDVD (DVD±RW) Cyberlink PowerProducer (DVD±RW) Cyberlink PowerProducer (DVD±RW) Microsoft Office preloaded; purchase a product key to activate Norton Internet Security 							
Chipset ExpressCard Smart card reade Media reader Ports	Mobile Intel QM87 Express Chipset One slot (ExpressCard/34) rOptional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector		(30 days of virus definitions) • Cyberlink PowerDVD(DVD±RW) • Cyberlink Power2Go (DVD±RW) • Cyberlink PowerProducer (DVD±RW) For ISV certifications, please visit www.lenovo.com/support/ISV							
	van, wiiii DisplayFort/ Munderboit, Ememet (nJ-45), Dock connector	Environment	EPEAT™ Gold; ENERGY STAR® 6.0; RoHS-compliant							

ThinkPad W540 20BG (Optimus) - TopSeller

				WIΔ				WWAN Smart Backlit Finger- & / M.2 SIM card Cam- key- print				Color I		Base warranty Glo		Ann					
Model	Processor vPro Graphics	Memory	Display	Storage	RAID	Optical	Bluetooth	SSD	card	reader	era	board	reader					Preload	(year)		(m/y)
20BG0010US	i7-4700MQ No K1100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG0011US	i7-4700MQ No K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG0012US	i7-4800MQ vPro K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG0013US	i7-4800MQ vPro K1100M	4GBx2	15.6" FHD	180G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG0014US	i7-4800MQ vPro K1100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG001YUS	i7-4700MQ No K1100M	8GBx1	15.6" FHD	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG0020US	i7-4800MQ vPro K1100M	8GBx1	15.6" FHD	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG0022US	i7-4800MQ vPro K1100M	8GBx1	15.5" 3K IPS	S 240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG004HUS	i7-4800MQ vPro K1100M	4GBx2	15.6" FHD	512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	07/14
20BG0015US	i7-4800MQ vPro K2100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG0016US	i7-4800MQ vPro K2100M	8GBx1	15.5" 3K IPS	S 256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG0017US	i7-4800MQ vPro K2100M	8GBx1	15.5" 3K IPS	S 180G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG0021US	i7-4800MQ vPro K2100M	8GBx1	15.6" FHD	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 DG Win7	3-depot	No	11/13
20BG004GUS	i7-4800MQ vPro K2100M	8GBx1	15.5" 3K IPS	5 512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG Win7	3-depot	No	07/14

• For detailed platform specifications, please see ThinkPad W540 Platform Specifications sheet

				Tor detailed platie	пп эрссп	ioations, picase s		Tation Specifications Sieet					
Processor	4th Genera			Extreme Processor			Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 /					
	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed		stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack					
	i5-4200M		2.5 GHz	3.1 GHz	3MB		Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlig					
	i5-4330M	2	2.8 GHz	3.5 GHz	3MB		UltraNav™	TrackPoint® pointing device and Mylar surface touchpad,					
	i7-4600M		2.9 GHz	3.6 GHz	4MB		ThinkLight™	integrated five buttons, multi-touch None					
	i7-4700MQ		2.4 GHz	3.4 GHz	6MB	DDR3L-1600							
	i7-4800MQ	4	2.7 GHz	3.7 GHz	6MB		Chipset ExpressCard	Mobile Intel QM87 Express Chipset					
	i7-4900MQ	4	2.8 GHz	3.8 GHz	8MB			One slot (ExpressCard/34) er <i>Optional:</i> Smart card reader					
	i7-4930MX		3 GHz	3.9 GHz	8MB		Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card					
Memory	dual-core n	nodel: 16G model: 32G	iB max ⁷ , two 204 iB max, four 204	-pin SO-DIMM socke -pin SO-DIMM socket	ts s,		Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector					
	All:			4+4, and 8+8+8+8 co z DDR3L, non-parity,			WLAN ⁴	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card					
Optical Ultrabay			.5mm Ultrabay sl emovable device	im, removable s (right side, cold swa	ap), 9.5r	nm high		7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card					
Storage M.2 SSD	Some: HDI	D / SATA 6.		, 7mm high , 7mm or 9.5mm high a M.2 card slot, exclu		h WWAN card	WWAN (optional)) <i>Upg:</i> Wireless WAN upgradable <i>EM7355:</i> Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/ HSPA+/EVDO/GSM/GPRS/EDGE, GPS					
Widescreen display	Some: 15.			80) , 300 nits, 500:1 co) , 350 nits, 1000:1 co			SIM card (optional)	AT&T / Verizon: AT&T® / Verizon® LTE (4G), contract required with service provider Select: User selectable, contract required with service provider					
Multi-touch Color calibration Camera (optional	None <i>Optional:</i> Po HD720p res	antone® col solution, wi	or calibrator by λ de view angle, lo	K-Rite® color calibration whight sensitive, face	on sense trackin	or in palm rest g, fixed focus	Bluetooth™ Ethernet NFC	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter Intel Ethernet Connection I217-LM (Clarkville) Optional: Near Field Communication					
Graphics	nera (optional) HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus phics NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory							Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology					
Dimensions ³	15.6W" (W	<i>xDxH</i>): 14.8	33" x 9.77" x 1.10)-1.16"; 376.6mm x 24	18.1mm	x 27.9-29.5mm	vPro <i>(optional)</i> Fingerprint reade	er Optional: Fingerprint reader on the palm rest, swipe sensor					
Weight ² Case material Battery type Max battery life ¹⁰ AC adapter	6-cell: starti Glass-Fiber Li-lon 6-cel 6-cell: up to	ing at 5.57 r Reinforce Il <i>(56Wh)</i> oi o 6.2 hr; 9	lb (2.53kg); 9-d d Plastic 9-cell <i>(99.9Wh)</i> 9- <i>cell:</i> up to 11.1	<i>cell:</i> stárting at 5.95 lb , HW Authentication hr	(2.70k		Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-b Win8 / 8.1 P64: Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit					
AO adapter	dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter						Limited warranty ¹² 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite						

See footnotes for more detailed information (KM1W-1) © Lenovo

ThinkPad W540 20BH (Optimus) - Windows 8

								WLAN &	WWAN /M2 SIM				Backlit Finger- key- print			Color Bat- Powe cali- tery adapt				Base warranty	Clah	Ann
Model	Processor	vPro Graphics	Memory	Display	Storage	RAID	Optical	Bluetooth	SSD	card	reader	era	board	reader	NFC				Preload	(year)		(m/y)
20BH001BUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	None	Finger	None	None	9	170W	Win8 P64	3-depot	No	11/13
20BH001DUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	128G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	No	11/13
20BH001FUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	2x500G 7200	0	None	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	No	11/13
20BH001GUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	2x500G 7200	1	None	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	No	11/13
20BH001VUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	None	Finger	None	None	9	170W	Win8 P64	3-depot	No	11/13
20BH002CUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	180G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002DUS	i7-4800MQ	vPro K1100M	4GBx2	15.5" 3K IPS	S 256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002FUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002HUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002RUS	i7-4800MQ	vPro K1100M	8GBx1	15.6" FHD	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002TUS	i7-4800MQ	vPro K1100M	8GBx1	15.5" 3K IPS	3 240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH004MUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	180G SSD Opal	No	DVD±RW	/ 7260 a/b/g/n+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	04/14
20BH004NUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	/ 7260 a/b/g/n+BT	Upg	None	None	720p	None	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	04/14
20BH004QUS	i7-4800MQ	vPro K1100M	4GBx2	15.6" FHD	128G SSD	No	DVD±RW	/ 7260 a/b/g/n+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	04/14
		vPro K2100M				-	DVD±RW												Win8 P64			
		vPro K2100M					DVD±RW												Win8 P64			
		vPro K2100M					DVD±RW												Win8 P64			
		vPro K2100M			256G SSD eDrive	No	DVD±RW	7260 ac+BT											Win8 P64			
		vPro K2100M	-		256G SSD eDrive	No	DVD±RW	7260 ac+BT											Win8 P64			
20BH002PUS	i7-4800MQ	vPro K2100M	4GBx2	15.5" 3K IPS	5 512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 P64	3-depot	Yes	11/13

	For detailed platform specifications, please see <u>ThinkPad W540 Platform Specifications</u> sheet													
Processor	4th Genera	tion Intel® (Core™ i5 / i7 / i7	Extreme Processor			Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 /						
	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed		stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack						
	i5-4200M		2.5 GHz	3.1 GHz	3MB		Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight						
	i5-4330M	2	2.8 GHz	3.5 GHz	3MB		UltraNav™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch						
	i7-4600M		2.9 GHz	3.6 GHz	4MB		ThinkLight™	None						
	i7-4700MQ		2.4 GHz	3.4 GHz	6MB	DDR3L-1600	Chipset	Mobile Intel QM87 Express Chipset						
	i7-4800MQ	4	2.7 GHz	3.7 GHz	6MB		ExpressCard	One slot (ExpressCard/34)						
	i7-4900MQ		2.8 GHz	3.8 GHz	8MB		Smart card reade	er Optional:`Smart card reader						
	i7-4930MX		3 GHz	3.9 GHz	8MB		Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card						
Memory				-pin SO-DIMM socker pin SO-DIMM socket			Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector						
	All:	only PC3	4+4, 8+8, 4+4+4 3-12800 1600MH	4+4, and 8+8+8+8 co z DDR3L, non-parity,	mbination		WLAN ⁴	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card						
Optical Ultrabay			.5mm Ultrabay sl emovable device	im, removable s (right side, cold swa	ap), 9.5r	nm high		7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card						
Storagé M.2 SSD	Some: SSI Some: HDI	D / SÁTA 6.0 D / SATA 6.	0Gb/s, 2.5" wide 0Gb/s, 2.5" wide		n, APS	· ·	WWAN (optional)	Upg: Wireless WAN upgradable EM7355: Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/ HSPA+/EVDO/GSM/GPRS/EDGE, GPS						
Widescreen display	Some: 15.5			80) , 300 nits, 500:1 co) , 350 nits, 1000:1 co			SIM card (optional)	AT&T / Verizon: AT&T® / Verizon® LTE (4G), contract required with service provider Select: User selectable, contract required with service provider						
Multi-touch Color calibration Camera (optional	None Optional: Pa)HD720p res	antone® col solution, wi	or calibrator by λ	K-Rite® color calibration whight sensitive, face	on senso trackin	or in palm rest g, fixed focus	Bluetooth™ Ethernet NFC	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter Intel Ethernet Connection I217-LM (Clarkville) Optional: Near Field Communication						
Graphics	onal) HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory						Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology						
Dimensions ³				-1.16"; 376.6mm x 24				r Optional: Fingerprint reader on the palm rest, swipe sensor						
Weight ² Case material Battery type	Glass-Fiber	r Řeinforce	d Plastic	cell: starting at 5.95 lb . HW Authentication) (2.70k	g)	Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit						
Max battery life ¹⁰ AC adapter	6-cell: up to	6.2 hr; <i>9</i>	<i>-cell:</i> up to 11.1 Î		danter			Win8 / 8.1 64: Windows 8 / 8.1 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit						
, to adaptor	addi ooit.	oo waa Ac	- adaptor, quad	- CO.C. 170 Wall AO al	aaptoi		Limited warranty ¹² 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsit							

See footnotes for more detailed information

ThinkPad W540 20BH (Optimus) - Windows 8 - II

					WWAN	Smart	Bac	klit Finger-	Cole	or Bat- Pow	er	Base	Ann
				WLAN &	/ M.2	SIM card	Cam- ke	y- print	cal	i- tery adap	ter	warranty	Glob- date
Model	Processor vPro Graphics Memory Display	Storage	RAID Optical	Bluetooth	SSD	card reader	era boa	rd reader	NFC brat	orcells (wa	tt) Preload	(year)	al (m/y)
20BH004PUS	i7-4800MQ vPro K2100M 4GBx2 15.5" 3K IPS	512G SSD	No DVD±RW	7260 a/b/g/n+BT	Upg	None None	720p Bac	klit Finger	None X-Ri	ite 9 170	W Win8 P64	4 3-depot	Yes 04/14
20BH004RUS	i7-4900MQ vPro K2100M 8GBx1 15.5" 3K IPS	512G SSD	No DVD±RW	7260 a/b/g/n+BT	Upg	None None	720p Bac	klit Finger	NFC X-Ri	ite 9 170	W Win8 P64	4 3-depot	Yes 04/14

• For detailed platform specifications, please see ThinkPad W540 Platform Specifications sheet

Processor	4th Genera	tion Intel® (Core™ i5 / i7 / i7	Extreme Processor			Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 /									
	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed		stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack									
	i5-4200M		2.5 GHz	3.1 GHz	3MB		Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight									
	i5-4330M	2	2.8 GHz	3.5 GHz	3MB		UltraNav™	TrackPoint® pointing device and Mylar surface touchpad,									
	i7-4600M		2.9 GHz	3.6 GHz	4MB		ThinkLight™	integrated five buttons, multi-touch None									
	i7-4700MQ		2.4 GHz	3.4 GHz	6MB	DDR3L-1600											
	i7-4800MQ	4	2.7 GHz	3.7 GHz	6MB		Chipset ExpressCard	Mobile Intel QM87 Express Chipset One slot (ExpressCard/34)									
	i7-4900MQ	7	2.8 GHz	3.8 GHz	8MB			er Optional: Smart card reader									
	i7-4930MX		3 GHz	3.9 GHz	8MB		Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card									
Memory	dual-core m	nodel: 16G	iB max ⁷ , two 204	pin SO-DIMM socke	ts		Ports	Two USB 3.0, two USB 2.0 (one Always On),									
,		nodel: 32G	B max, four 204-	pin SO-DIMM socket	s,			VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector									
	A.11	only	4+4, 8+8, 4+4+4	1+4, and 8+8+8+8 co	mbinatio	ons supported	WLAN ⁴	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card									
	All:			z DDR3L, non-parity,	dual-ch	annei capable	_	7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card									
Optical	Some: DVE) burner, 9.	.5mm Ultrabay sl	im, removable	\ 0.5	la:la		7260 ac+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card									
Ultrabay Storage	Some: SSI	ar day for ro 1 / SATA 6	emovable device NGh/s 2.5" wide	s (right side, cold swa	ap), 9.5n	nm nign	WWAN (optional)										
Otorage	Some: SSD / SÁTA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS						VVVAIN (Optional)	EM7355: Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/									
M.2 SSD				a M.2 card slot, exclu		h WWAN card		HSPA+/EVDO/GSM/GPRS/EDGE, GPS									
Widescreen	Some: 15.6	5" (396mm) FHD (1920x10	30), 300 nits, 500:1 c	ontrast r	atio	SIM card	AT&T / Verizon: AT&T® / Verizon® LTE (4G), contract required with service provider									
display	Some: 15.5), 350 nits, 1000:1 co			(optional)	Select: User selectable, contract required with service provider									
Multi-touch	None			/ Dit = ® il + i			Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter									
Color calibration	Uptional: Pa	antone® col	or calibrator by X	(-Rite® color calibration (-Rite) color calibration (-Rite) (-	on senso	or in paim rest	Ethernet	Intel Ethernet Connection IŽ17-LM (Clarkville)									
	·					y, lixed locus	NFC	Optional: Near Field Communication									
Graphics	integrated of	otimus™ teo graphice In	cnnology, auto-st	vitch between discret 4600 in processor, a	e and		Security	Power-on password, hard disk password, supervisor password, security keyhole									
	NVIDIA Qua	adro® K11	00M or K2100 M.	PCI Express® x16, 2	GB mer	norv	Security chip	Trusted Platform Module, TCG 1.2-compliant									
Dimensions ³				-1.16"; 376.6mm x 24			vPro (optional)	Intel vPro Technology r Optional: Fingerprint reader on the palm rest, swipe sensor									
Weight ²				cell: starting at 5.95 lb													
Case material	Glass-Fiber	· Řeinforce	d Plastic	· ·	(97	Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit									
Battery type	Li-lon 6-cell	(56Wh) or	9-cell (99.9Wh)	HW Authentication				Win8 / 8.1 64: Windows 8 / 8.1 64-bit									
Max battery life ¹⁰			-cell: up to 11.1 l	nr <i>'-core:</i> 170-watt AC a	dantar			Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit									
AC adapter	uuai-coie: I	55-wall AC	z adapter, quad	-core. 170-wall AC al	uapiei		Limited warranty ¹² 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery)										

ThinkPad W540 20BH (Optimus) - Onsite (Windows 8)

-				WWAN		Smart			Finger-		Color	Base												
Model	Processor vF	Pro Graphics	Memory	Display	Storage	RAID	Optical		AN & tooth			card reader			print reader	NFC			adaptei (watt)	Preload	warranty (year)		date (m/y)	
20BH001AUS i	i7-4800MQ vF	Pro K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 a	ac+BT	Upg	None	None	720p	None	Finger	None	None	9	170W	Win8 P64	3-onsite	No	11/13	
20BH001CUS i	i7-4800MQ vF	Pro K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260		Upg	None	None	720p	None	Finger	None	None	9	170W	Win8 P64	3-onsite	No	11/13	
20BH001EUS i					128G SSD	No	DVD±RW	7260												Win8 P64				
20BH001HUS i					2x500G 7200	1	None	7260												Win8 P64			11/13	
20BH001WUS i					256G SSD eDrive			7260												Win8 P64				
20BH002EUS i					2x500G 7200	0	None	7260												Win8 P64				
					S 256G SSD eDrive			7260												Win8 P64				
20BH002MUS i					256G SSD eDrive			7260												Win8 P64				
20BH002NUS i					500G 7200 180G SSD Opal		DVD±RW DVD±RW	7260 a							Finger					Win8 P64 Win8 P64				
20BH002QUS i 20BH002SUS i					240G SSD Opal		DVD±RW	7260												Win8 P64				
					S 240G SSD Opal		DVD±RW	7260							Finger					Win8 P64				
20BH001KUS i					500G 7200		DVD±RW	7260												Win8 P64				
20BH001MUS i					128G SSD		DVD±RW	7260							Finger					Win8 P64				
20BH001NUS i					180G SSD Opal		DVD±RW	7260												Win8 P64				
20BH001QUS i					•		DVD±RW	7260												Win8 P64			01/14	
					S 180G SSD Opal	No	DVD±RW	7260	ac+BT											Win8 P64			01/14	
20BH001SUS i	i7-4900MQ vF	Pro K2100M	8GBx1	15.5" 3K IF	S 512G SSD	No	DVD±RW	7260	ac+BT	Upg	None	None	720p	Backlit	Finger	NFC	X-Rite	9	170W	Win8 P64	3-onsite	No	01/14	
20BH001YUS i	i7-4900MQ vF	Pro K2100M	4GBx2	15.6" FHD	256G SSD eDrive	No No	DVD±RW	7260	ac+BT	Upg	None	None	720p	None	Finger	None	None	9	170W	Win8 P64	3-onsite	No	11/13	
20BH002GUS i	i7-4800MQ vF	Pro K2100M	4GBx2	15.6" FHD	256G SSD eDrive	No No	DVD±RW	7260		Upg	None	None	720p	Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes	11/13	
20BH002LUS i	i7-4800MQ vF	Pro K2100M	4GBx2	15.5" 3K IF	S 512G SSD • For detailed platfo		DVD±RW ecifications									None	X-Rite	9	170W	Win8 P64	3-onsite	Yes	11/13	
Processor	4th Gener	ration Intel® (Core™ i5	/ i7 / i7 Ex	treme Processor	тт эрс	omounons,	picase s	Audio s							2 code	c. Doll	bv® F	lome T	heater® v	4 /			
		Processor # of Cores Base Frequency Max Turbo Frequency Cache Memory Spe																e, combo audio/microphone jack						
	i5-4200M	0. 00.00		GHz	3.1 GHz	3ME		Ороса	Keyboa	rd	6	i-row. s	pill-res	sistant.	multime	edia Fr	n kevs.	num	neric ke	ypad, opt	ional LED) back	diaht	
	i5-4330M	2		GHz	3.5 GHz	3ME	_		UltraNa				kPoint® pointing device and Mylar surface touchpad,											
	i7-4600M		2.9		3.6 GHz	4ME	_					integrated five buttons, multi-touch												
	i7-4700MC	2	2.4		3.4 GHz	6ME	DDR3L	-1600	ThinkLi			lone												
	i7-4800MC	5	2.7	GHz	3.7 GHz	6ME	_		Chipset						xpress	Chips	set							
	i7-4900MC	4	2.8	GHz	3.8 GHz	8ME	3		Express Smart of					ressCa										
	i7-4930MX	(3 0	Hz	3.9 GHz	8ME	3		Media r								DXC),	supp	orts UI	HS-II SD (card			
Memory	dual-core	model: 16G	B max ⁷ .	two 204-p	in SO-DIMM socke	ts			Ports		Т	wo US	B 3.0,	two US	SB 2.0 (one Al	wayś (Ͻnj,						
Wiemery					n SO-DIMM socke						\	VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connection												
	,				4, and 8+8+8+8 co		ations supp	oorted	WLAN ⁴		1	1b/g/n	+BT:	Th	inkPad	Pad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card								
	AII:	PC3	3-12800	1600MHz	DDR3L, non-parity	dual-	channel ca	apable				7260 b/					s-Ň 7260, 2x2, Wi-Fi + BT, M.2 card and Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 car							
Optical		VD burner, 9										7260 a/i 7260 ac		BI: Inte	el Dual	Band V	/Vireles	S-IN	7260, 2	2x2, Wi-Fi 2x2, Wi-F	+ BI, M.2	2 card	i l	
Ultrabay					right side, cold swa	ар), 9.	5mm high		1404/41									5-AC	, /200,	∠X∠, VVI-F	1 + D1, IV	1.2 Ca	u	
Storage		SD / SATA 6.			mm nign 'mm or 9.5mm higl	۸ D C			WWAN	(optioi		Jpg: =N/725/			AN upg			omm	n Cabi	™ 4G LTE	,			
M.2 SSD					M.2 card slot, excl			N card				_IVI / 330			DO/GSI					4G LIL	1			
Widescreen), 300 nits, 500:1 c				SIM car	rd		1T&T /	Verizo	n: AT&	T® / Veri	zon® L	TE (40	3). co	ontract	required v	vith servi	ce pro	vider	
display					350 nits, 1000:1 co			;	(optiona			Select:								th service				
Multi-touch	None								Bluetoo	th™	F	Sluetoo	th 4 0	wireles	s intea	rated i	n Wi-F	i + B	luetoot	h combo a	danter			
Color calibratio					Rite® color calibration				Etherne						ction 12						idapio.			
					light sensitive, face			locus	NFC						Commi									
Graphics		NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and								y	F	ower-c	n pas	sword,	hard dis	sk pas	sword,	supe	ervisor	password	, security	keyh	ole	
		NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory									nip Trusted Platform Module, TCG 1.2-compliant													
Dimensions ³					.16"; 376.6mm x 2			20 5mm	vPro (o	ptional	<i>I)</i> li			hnology		on the	nolm	roct	ewine	concor				
Weight ²								ا ااااان. قـــ	I			•		· ·							UI			
Case material	6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg) Glass-Fiber Reinforced Plastic								Preload	1	V	vin8 / 8	3.1 DG	Win7:						4 preinsta		Dro 6	1 bit	
Battery type	Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication 510 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr										Win8 / 8.1 64: Window						through downgrade rights in Windows 8 / 8.1 Pro 64-bit Windows 8 / 8.1 64-bit							
Max battery life					470 4.6							Vin8 / 8							64-bit					
AC adapter	dual-core.	: 135-watt A0	<i>i</i> adapte	r; quad-c	ore: 170-watt AC a	dapte	r		Limited	warra										rs (1-year	hattery)	oneit		
											iity I	-year -	uepu	c/ o-yea	шэ (1-y	Dalle	. y / - ut	-pot	, o-yea	is (i-yeal	Dallely)	onoil	-	

See footnotes for more detailed information (KM1W-4) © Lenovo